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REMARKS

Claims 1-23 are all the claims presently pending in the application. Claims 2, 7-11, 18-19 and 22 have been amended to more clearly define the invention. Claims 1, 7, 17 and 23 are independent.

These amendments are made only to more particularly point out the invention for the Examiner and not for narrowing the scope of the claims or for any reason related to a statutory requirement for patentability.

Applicant also notes that, notwithstanding any claim amendments herein or later during prosecution, Applicant's intent is to encompass equivalents of all claim elements.

Entry of this §1.116 Amendment is proper. Since the Amendments above narrow the issues for appeal and since such features and their distinctions over the prior art of record were discussed earlier, such amendments do not raise a new issue requiring a further search and/or consideration by the Examiner. As such, entry of this Amendment is believed proper and Applicant earnestly solicits entry. No new matter has been added.

Claims 1-23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Najork et al. reference in view of the Shaffer et al. reference.

This rejection is respectfully traversed in the following discussion

I.   THE CLAIMED INVENTION

The claimed invention is directed to a method for searching files stored on a network. The method includes accessing a first file on the network, downloading data from that first file and setting an access time to access a second file based on the downloaded data from the first file. The downloaded data provides an indication of when the second file is scheduled to

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be updated.

Conventional network file search engines conduct searches for updated files on networks periodically, such as at regular intervals. One problem with these conventional systems is that these systems do not have any method for determining when a website might be scheduled to be updated. Depending on how often a website is updated, the web crawler's archive data could be very outdated. On the other hand, frequent web crawler visits to websites which are not frequently updated consume valuable computer resources.

The present invention provides a method for determining when and how often a web crawler should return to a web site. The present invention provides this advantage because the method accesses a first file on a network, downloads data from the first file and sets an access time to access a second file based upon the data from the first file, where that downloaded data indicates when the second file is scheduled to be updated.

In an exemplary embodiment of the present invention, the method accesses a channel definition file (CDF) which provides an indication of when a particular channel (and/or subchannel) is scheduled to be updated (see page 4, line 15 - page 5, line 2). Therefore, in this exemplary embodiment the first file is the CDF and the second file is the channel.

In this manner, the present invention provides for more efficient web crawling of a web site by crawling the site when and where it is likely the information contained therein is updated (page 6, lines 7-15).

II.   THE PRIOR ART REJECTION

Regarding the rejection of claims 1-23, the Examiner alleges that the Shaffer et al. reference would have been combined with the Najork et al. reference to form the claimed invention. Applicant submits, however, that these references would not have been combined

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and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

Applicant submits that these references would not have been combined as alleged by the Examiner. Indeed, the references are directed to completely different matters and problems.

Specifically, the Najork et al. reference is directed to providing an <u>efficient method for avoiding the sending of multiple parallel requests from a web crawler to the same host computer</u> (col. 1, line 60 - col. 2, line 2) which does not have millions of queues sitting idle (col. 2, lines 19-23), and does not waste time scanning through a list of URL's (col. 2, lines 32-36).

In contrast, the Shaffer et al. reference is specifically directed to <u>notifying a remote user when an event that is determined by the user occurs and when that user is unavailable locally to receive notification.</u> Therefore, one of ordinary skill in the art who was concerned with <u>finding an efficient method for avoiding the sending of multiple parallel requests from a web crawler to the same host computer</u> as disclosed by the Najork et al. reference based upon the completely different and unrelated problem of <u>notifying a remote user when an event that is determined by the user occurs and when that user is unavailable locally to receive notification</u> as disclosed by the Shaffer et al. reference. Thus, the references would <u>not</u> have been combined.

Further, Applicant submits that the Examiner can point to no motivation or suggestion in the references to urge the combination as alleged by the Examiner. Indeed, the Examiner does not even support the combination by identifying a reason for combining the references.

The Examiner alleges that it would have been obvious to one of ordinary skill in the

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art at the time of the invention to modify the teachings of the Najork et al. reference based

upon the teachings of the Shaffer et al. reference "to have a web crawler or a search engine to

(sic) subscribe to one of these push servers just as in the computer 10 of Figure NO. 1 for

Shaffer (sic)."

In other words, the Examiner appears to allege that it would have been obvious to

have the web crawler disclosed by the Najork et al. reference subscribe to the push server

provider (e.g. Web server 53 of Fig. 1). Applicant respectfully submits that the web crawler

disclosed by the Najork et al. reference has absolutely no use for a push server, thus, one of

ordinary skill in the art would not have been motivated to "subscribe" the web crawler of the

Najork et al. reference to the push server disclosed by the Shaffer et al. reference.

The web crawler disclosed by the Najork et al. reference "automatically finds and

downloads documents from host computers in networks such as the world wide web. When a

web crawler is given a set of starting URL's, the web crawler downloads the corresponding

documents, then the web crawler extracts any URL's contained in those downloaded

documents and downloads more documents using the newly discovered URL's. This process

repeats indefinitely or until a predetermined stop condition occurs." (Col. 1, lines 31-39).

The invention described in the Najork et al. reference is directed to enabling this process to

continue without causing the servers which are providing the documents to the web crawler to

crash (col. 1, line 49 - col. 2, line 2). In other words, the primary purpose of the web crawler

disclosed by the Najork et al. reference is to download all documents from all URL's on the

world wide web. The Najork et al. reference has not disclosed that the web crawler would

find any value at all in determining when updates to web pages have occurred, receiving

updated web pages and/or receiving regularly scheduled notices regarding web pages.

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In stark contrast, the Shaffer et al. reference discloses a notification system which

analyzes received data to determine the presence of predetermined events which will trigger

the system to provide a notice to a user (col. 2, lines 6-24). The Shaffer et al. reference

provides examples of sources for the received data as including email messages, web page

update, a scheduling message for a calendar, or a scheduling reminder.

In one exemplary embodiment of a received data source the Shaffer et al. reference

explains that the notification system may receive web page updates from a push server. The

Shaffer et al. reference explains that the push server monitors locally supported web sites

and/or remotely located web sites to determine when updates occur and provides the web

sites that have been detected as being updated or at user-configurable times to subscribers

(col. 4, lines 11-20). The Najork et al. reference has not disclosed that the web crawler

would find any value at all in the type of services provided by the push server disclosed by

the Shaffer et al. reference. The Najork et al. reference has not disclosed that the web crawler

would find any value at all in determining when updates to web pages have occurred,

receiving updated web pages and/or receiving regularly scheduled notices regarding web

pages.

Further, the Shaffer et al. reference also does not disclose anything at all regarding

web crawlers and also does not provide any reason why a web crawler would find any benefit

at all in receiving updated web pages from a push server.

Further, as set forth in M.P.E.P. § 2142 there must be some suggestion or motivation,

either in the references themselves or in the knowledge generally available to one of ordinary

skill in the art, to modify the reference or to combine the reference teachings and he teaching

or suggestion to make the claimed combination must be found in the prior art, and not based

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on applicant's disclosure in order to have a prima facie case of obviousness.

While the Examiner has alleged that alleged that the motivation to make the Examiner's proposed modification is because "one would like to only visit a web site when new info is available or be notified of an event when new info became available, also to dramatically minimize and free-up the system resources not mentioning (sic) the benefits to minimizing the network traffic," the Examiner has failed to provide a source for these motivations.

Rather, Applicant respectfully submits that the Examiner has engaged in the impermissible use of hindsight by relying upon the Applicant's own disclosure in an attempt to provide a motivation to modify. Clearly, this cannot be used to bolster the Examiner's lack of a prima facie case of obviousness.

Additionally, the web crawler of Najork et al. requires a direct connection to the Internet (e.g. the World Wide Web) in order to be able to accomplish the purpose of downloading all documents on all web pages. The Examiner's proposed modification of requiring the web crawler of Najork et al. to only access web page updates provided by the push server disclosed by the Shaffer et al. reference would render the web crawler of Najork et al. inoperable for its intended purpose.

As explained above, the purpose of the Najork et al. reference is to "crawl" across the Web and to download files. If one were to modify the web crawler disclosed by the Najork et al. reference to only receive the web page updates which are provided by the push server disclosed by the Shaffer et al. reference would prevent the Najork et al. from being able to crawl across the Web and to download files. Neither of these references explain how a web crawler, like the one disclosed in the Najork et al. reference would process a web page

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update. Indeed, the web crawler as disclosed by the Najork et al. reference is not capable of

processing web page updates received from a push server like that disclosed by the Najork et

al. reference.

Therefore, clearly the Examiner's proposed modification would render the web

crawler disclosed by the Najork et al. reference inoperable.

Indeed, the Schaffer et al. reference does not disclose how the push server monitors

the websites to determine whether updates have ocurred.

Therefore, one of ordinary skill in the art would not have been motivated to modify

the teachings of the Najork et al. reference based upon the teachings of the Shaffer et al.

reference as alleged by the Examiner and the Examiner has failed to present a prima facie

case of obviousness of the present invention.

Moreover, even assuming arguendo that one of ordinary skill in the art would have

been motivated to combine these references, the combination would not teach or suggest each

and every element of the claimed invention.

As explained previously, the Najork et al. reference does not teach or suggest setting

an access time for a second file based on <u>data from a first file</u>. Rather, the Najork et al.

reference discloses a system which sets an access time based upon the <u>download time</u> of a

previous document from the same web server (col. 2, lines 43-45). In other words, the Najork

et al. reference attempts to avoid multiple parallel requests to the same host computer by

estimating how long a file being currently downloaded (second file) will take to download

based upon the time that a previous document (first file) took <u>to download</u> and then setting an

access time for a subsequent download (third file) based upon that amount of time. In that

manner, the system disclosed by the Najork et al. reference sets an access time for accessing

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the subsequent download (third file) based upon the <u>download time</u> of a document (first file)

which is previous to a document (second file) currently being downloaded. Therefore, the

Najork et al. reference does not teach or suggest setting an access time based upon <u>data</u>

<u>downloaded FROM</u> a first file. Rather, the Najork et al. reference discloses setting an access

time based upon a <u>download time of</u> a first file.

Indeed, the Najork et al. reference does not even address the problem solved by the

present invention. The Najork et al. reference is directed to a <u>current visit</u> to a web site by a

web crawler and downloading all of the data from the host computer of that web site. The

Najork et al. reference addresses issues regarding avoiding overloading the host computer

with multiple parallel requests during that <u>same visit.</u>

In stark contrast, the present invention is directed to determining when a web crawler

should conduct a <u>return visit</u> to a host computer. The present invention is concerned with

visiting a web site more often than necessary. As explained above, conventional web

crawlers (including the web crawler disclosed by the Najork et al. reference) visit web sites

<u>periodically.</u> The problem is that the data on each web site <u>may not have been updated</u> since

the last visit. Therefore, these conventional web crawlers revisit these web sites <u>too often.</u>

The present invention is directed to determining when to conduct <u>a return visit</u> to a

web site based upon data from that web site which may indicate when a file is scheduled to be

updated. As explained above, in an exemplary embodiment of the present invention, the first

file corresponds to a channel definition file which includes data about when a second file

which corresponds to a channel is scheduled to be updated. The present invention takes

advantage of that data to determine when to conduct <u>a return visit</u> to download the claimed

second file with the most update information.

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By contrast, the Najork et al. reference is directed to a <u>current visit</u> to a web site where

a <u>first web page</u> is downloaded and analyzed to retrieve addresses for <u>additional web pages</u> on

the same host computer. Therefore, the Najork et al. reference is not at all concerned with

when the <u>first web page may be updated</u>. Rather, the Najork et al. reference is concerned

with when the host computer may safely download <u>additional web pages</u>.

The Shaffer et al. reference, like the Najork et al. reference, does not teach or suggest

<u>setting an access time to access a second file based upon the data from the first file</u>. In this

manner, the present invention provides for more efficient web crawling of a web site by

crawling the site when and where it is likely the information contained therein is updated

(page 6, lines 7-15).

Clearly, this novel feature is not taught or suggested by the Shaffer et al. reference.

Indeed, the Shaffer et al. reference is completely unrelated to the claimed invention.

The Examiner admits that the Najork et al. reference does not teach or suggest <u>setting

an access time to access a second file based upon the data from the first file</u>. However, the

Examiner cites the Abstract of the Shaffer et al. reference in an attempt to allege that the

Shaffer et al. remedies this deficiency.

In particular, the Examiner appears to confuse the meaning of the <u>scheduling updates</u>

discussed in the Shaffer et al. reference. The Examiner lifts the text "scheduling updates" out

of context. The Abstract of the Shaffer et al. reference states: "The data filter is capable of

analyzing data included in web page updates transmitted to a web browser of the computer, e-

mail messages, scheduling updates <u>and requests transmitted to an electronic calendar of the

computer</u>, and scheduling reminders transmitted by the electronic calendar. Therefore, the

"scheduling updates" disclosed by the Shaffer et al. reference have absolutely nothing to do

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with when a file may be updated.

Rather, as explained above, the Shaffer et al. reference discloses a notification system which analyzes received data to determine the presence of predetermined events which will trigger the system to provide a notice to a user (col. 2, lines 6-24). The Shaffer et al. reference provides examples of sources for the received data as including email messages, web page updates, a scheduling message for a calendar, or a scheduling reminder. The system disclosed by the Shaffer et al. reference includes an electronic calendar program 13 that allows a user of the computer 10 to store and retrieve scheduling information from memory 15 (col. 3, lines 58 - 60).   In particular, the Shaffer et al. reference explains at, for example, col. 5, line 60 - col. 6, lines 12, that the data filter 16 can analyze <u>messages associated with the electronic calendar</u> 13 which can be <u>scheduling updates</u> or requests received from a remote device, such as a first remote computer 56, or a scheduling reminder generated by the electronic calendar 13 to notify the user of an upcoming event. Even more particularly, the Shaffer et al. reference explains that the <u>scheduling update</u> is analyzed by the data filter to determine if it includes the predetermined event in the same manner as the e-mail messages or the web page updates are analyzed (col. 5, line 65 - col. 6, line 3). Therefore, these <u>scheduling updates</u> disclosed by the Shaffer et al. reference are related to data included or being updated within an electronic calendar and the entire disclosure of the Shaffer et al. reference is directed to providing a system which is capable of notifying a user of a scheduling update when that user is not local and when the scheduling update includes a predetermined event.

Thus, in stark contrast to the present invention, the Shaffer et al. reference does not teach or suggest <u>setting an access time to access a second file based upon the data from the</u>

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first file. Rather, the Shaffer et al. reference teaches analyzing a scheduling update to

determine whether the update includes a predetermined event and forwarding a notice if the

update includes that predetermined event. The Shaffer et al. reference does not teach setting

any access time at all, let alone setting an access time for a second file based upon data from a

first file.

The Examiner also cites col. 1, lines 18-25, col. 2, lines 38-43 and col. 4, lines 11-17

of the Shaffer et al. reference in an attempt to remedy the deficiencies of the Najork et al.

reference. These portions of the Shaffer et al. reference all describe the operation of a push

server 53 and how the data network 11 may benefit from receiving web page updates from the

push server. However, none of these passages teach or suggest setting an access time to

access a second file based upon the data from the first file.

In particular, the Shaffer et al. reference explains that the web server 53 provides a

push service in which web sites are monitored to determine when updates occur (col. 4, lines

10-13). That subscribers to the push service are automatically provided with updates of

preselected web sites when the web server detects an update of that web site (col. 4, lines 13-

15). These updates may be provided to the subscriber as the updates occur or at user-

configurable times (col. 4, 14-17).

However, the Shaffer et al. reference does not provide any disclosure at all as to how

the push server monitors web sites in order to determine when updates to the web sites occur.

Indeed, Applicant respectfully submits that the push server disclosed by the Shaffer et al.

reference is likely to suffer from the same problems which are solved by the present

invention.

As explained above, conventional network file search engines conduct searches for

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updated files on networks periodically, such as at regular intervals. One problem with these

conventional systems is that these systems do not have any method for determining when a

website might be scheduled to be updated. Depending on how often a website is updated, the

web crawler's archive data could be very outdated. On the other hand, frequent web crawler

visits to websites which are not frequently updated consume valuable computer resources.

The push server of the Shaffer et al. reference is also likely to suffer from these same

problems.

The present invention provides a method for determining when and how often a web

crawler should return to a web site. The present invention provides this advantage because

the method accesses a first file on a network, downloads data from the first file and sets an

access time to access a second file based upon the data from the first file, where that

downloaded data indicates when the second file is scheduled to be updated.

Therefore, Applicant respectfully submits that the push server disclosed by the Shaffer

et al. reference suffers from the same problems which are solved by the present invention.

Since the Shaffer et al. reference does not disclose when or how it determines when or

how to return to a web site to obtain updates, the Shaffer et al. reference clearly does not

teach or suggest the feature of the present invention of setting an access time to access a

second file based upon the data from the first file.

While the Shaffer et al. reference appears to include a data filter 16 which may

analyze data received from web page updates provided by the push server 53, the data filter

16 does not provide any feedback at all to the push server 53 to provide guidance as to when

the push server should access a second file.

Indeed, the Shaffer et al. reference does not teach or suggest analyzing the web page

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update to determine when to access a second file, let alone setting an access time based upon

that determination. Rather, the Shaffer et al. reference discloses a data filter which analyzes

web page updates to determine whether that web page update indicates a predetermined event

(such as a stock price change) to determine whether to provide a notification of that

predetermined event to a remotely located user.

Therefore, these references would not have been combined and even if combined, the

combination would not teach or suggest each and every element of the claimed invention.

Thus, the Examiner is respectfully requested to withdraw this rejection of claims 1-23.

Lastly, regarding the means plus function recitations, the Examiner has failed to

interpret the claims to read on the structures or materials disclosed in the specification and

"equivalents thereof." The Federal Circuit has made it clear that the Office is required to

interpret means plus function language in accordance with 35 U.S.C. § 112, sixth paragraph

(see M.P.E.P. §2106; *In re Donaldson*, 16 F.3d 1189, 1193 (Fed. Cir. 1994) and *In re

Alappat*, 33 F.3d 1526, 1540 (Fed. Cir. 1994)). Clearly, the Examiner has failed to interpret

the claims to read on the structures or materials disclosed by the present specification and

"equivalents thereof."

IV.   FORMAL MATTERS AND CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully submits

that claims 1-23, all the claims presently pending in the Application, are patentably distinct

over the prior art of record and are in condition for allowance. The Examiner is respectfully

requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the Application to be other than in condition for allowance,

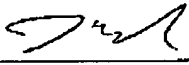Serial No. 09/672,304   20
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the Examiner is requested to contact the undersigned at the local telephone number listed

below to discuss any other changes deemed necessary in a <u>telephonic or personal interview</u>.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit

any overpayment in fees to Attorney's Deposit Account No. 50-0481.

                                           Respectfully Submitted,

Date: _____   _____   FAX RECEIVED
                                           James E. Howard   AUG 2 2 2003
                                           Registration No. 39,715   GROUP 2100
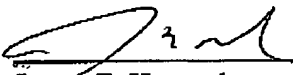
McGinn & Gibb, PLLC   OFFICIAL
8321 Old Courthouse Rd., Suite 200
Vienna, Virginia 22182
(703) 761-4100
Customer No. 21254

                    <u>CERTIFICATION OF FACSIMILE TRANSMISSION</u>

    I hereby certify that I am filing this Amendment by facsimile with the United States
Patent and Trademark Office to Examiner Haythim J. Alaubaidi, Group Art Unit 2171 at fax
number (703) 746-7238 this 22th day of August, 2003.

                                           _____
                                           James E. Howard
                                           Reg. No. 39,715